

NOVEMBER/DECEMBER 2023

**CBC31/FBC31 — ANALYTICAL
BIOCHEMISTRY**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.



1. What is RCF?
2. Explain "Normality".
3. Define chromatography based on the principle.
4. Extend "RF".
5. Recall Beer Lambert's Law.
6. Classify Wavelength and wavenumber.
7. Define electrophoresis.
8. Explain isotachophoresis.
9. What is mean by radioactive decay?
10. Outline Positron emission

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Solve the density of a solution prepared by dissolving 120 g of urea (mol.mass= 60 u) in 1000 g of water is 1.15 g/ml, calculate the molarity of this solution?

Or

- (b) Examine about density differential centrifugation
12. (a) Construct the types of gel permeation chromatography

Or

- (b) Analyze the principle and sample loading of column chromatography
13. (a) Choose the applications on coupled enzyme assays.

Or

- (b) Distinguish Absorption and emission spectra.
14. (a) Make use of SDS PAGE to determine the molecular weight of proteins.

Or

- (b) Categorize the various steps involved in agarose gel electrophoresis

15. (a) Identify the no. of protons, neutrons and electrons of the following atoms Na^{2+} , Mg^+ , Ca^{2+} , Cl^- and K^+

Or

- (b) Examine the units of radioactivity

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Discuss the following terms: pH, pOH, Molarity, Molality and Normality,
17. Evaluate the principle, construction and working of TLC.
18. Explain the instrumentation and applications of UV spectrophotometer
19. Construct the principle, techniques and applications of SDS-PAGE
20. Discuss the principle, instrumentation and application of Scintillation counter

